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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/627,355	07/28/2000	Bob L. Mackey	CDST-F102	3572

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EXAMINER

DAY, MICHAEL HENRY

ART UNIT PAPER NUMBER

2879

DATE MAILED: 04/11/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/627,355

Applicant(s)

B. Mackey, et al.

Examiner

Michael Day

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Jan 4, 2002
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a) ☐ All b) ☐ Some* c) ☐ None of:

- ☐ Certified copies of the priority documents have been received.
- ☐ Certified copies of the priority documents have been received in Application No. _____.
- ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☐ Notice of References Cited (PTO-892) 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 19) ☐ Notice of Informal Patent Application (PTO-152)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 20) ☐ Other:

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DETAILED ACTION

1. Amendment A, filed 4 January 2002, has been entered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-9, 19, 20, 22-29 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Wallace et al. Referring to claims 1-9, 19, 20, 22-29, Wallace et al. disclose a faceplate structure (see FIG. 4F) including a faceplate (see col. 5, lines 36, 37, soda glass substrate 26) with phosphor (24) containing wells (openings disposed between, and defined by, getter material 29') and a barrier layer (see col. 7, lines 23-30, ITO layer 28, 150 nm thick, and silica layer 34, 50 nm thick). It is noted from page 38, lines 4-15 of the instant specification, a barrier layer formed from silica and/or ITO 100 nm thick is sufficient to prevent penetration of the faceplate by electrons. Consequently, it is the position of the examiner that the claimed functional language that the barrier layer "prevents penetration of the faceplate by electrons" is inherent to the prior art layers 28, 38, as evidenced by page 38, lines 4-15 of the instant specification.

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Also, claims 2-9, 20, and 22-29 are replete with function language, such as “prevent penetration of electrons,” “electron damage resistant,” and “prevents migration of contaminants,” that does not distinguish the present invention from the prior art. It is the position of the examiner that such functional language is inherent to the prior art device as evidenced by Wallace’s disclosure of all of the claimed structural limitations.

4. Claims 10-14, 16-19, 21-25, 27-29 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Banno et al. Referring to claims 10-14, 16-19, 21-25, 27-29, Banno et al. disclose a cathode substrate structure including a cathode substrate (see col. 5, lines 36-41, soda glass substrate 1) having an electron emitting structure (field emission device 2) and a barrier layer (see col. 5, lines 36-41, silica and gold layers 500 nm and 300 nm thick, respectively). It is noted from page 36, lines 19-26 of the instant specification, a barrier layer formed from silica 100 nm thick is sufficient to prevent bombardment (penetration of the substrate) by electrons. Consequently, it is the position of the examiner that the claimed functional language that the barrier layer “prevents bombardment of the substrate by electrons” is inherent to the prior art layers.

Also, claims 11-18, 23-25, and 27-29 are replete with function language that does not distinguish the present invention from the prior art. It is the position of the examiner that the functional language is inherent to the prior art device as evidenced by Banno’s disclosure of all of the claimed structural limitations.

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Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

6. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Banno et al.

Referring to claim 15, it is unclear as to whether the barrier layers of silica (approximately 500 nm) and gold (approximately 300 nm) are approximately 100 nm thick, as recited in the instant claim. The specification of a suitable thickness, however, is within the skill of the art. It would have been obvious to specify a barrier layer that is approximately 100 nm thick because the specification of a suitable thickness is within the skill of the art.

7. Claims 30-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wallace et al. in view of Okamoto et al. Wallace et al. disclose a faceplate as recited in claim 1, and 30.

Wallace et al. do not disclose a barrier layer including a color filter. Okamoto et al. disclose that

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color filters (RGB) are conventionally disposed in faceplates for the advantage of providing color displays (see col. 1, lines 33-37). It would have been obvious to include color filters, as disclosed by Okamoto et al., in the faceplate, as disclosed by Wallace et al. for the advantage of providing a color display.

Response to Arguments

8. Applicant's arguments filed 4 January 2002 have been fully considered but they are not persuasive.

Referring to the second full paragraph of page 5 of amendment A, filed 4 January 2002, the applicant alleges that the conductive regions 28 function as an anode electrode and therefore does not function as a barrier layer that prevents penetration by electrons. The examiner respectfully disagrees, and noted that on page 35, lines 12-17 of the instant specification, it is disclosed that the barrier layer can be conductive to bleed-off electrons.

Referring to the third full paragraph of page 5 of amendment A, the applicant alleges that Wallace teaches away from a barrier layer because Wallace discloses that "it may also be desirable to remove insulating layer 34." underlying the etched-away regions of the conductive layer 28. The examiner respectfully disagrees. First, it is noted that "teaching a way" is not the same as "teaching away." The latter is generally understood to mean that something will not work, and not that something works better. Secondly, Wallace actually states that "it may also be desirable to remove insulating layer 34 underlying the etched-away regions of the conductive layer 28."

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Consequently, the applicant's argument is grossly misleading, and misses the point. The faceplate, as disclosed by Wallace includes an ITO layer 28, 150 nm thick, and a silica layer 34, 50 nm thick. It is noted from page 38, lines 4-15 of the instant specification, a barrier layer formed from silica and/or ITO 100 nm thick is sufficient to prevent penetration of the faceplate by electrons. Consequently, it is the position of the examiner that the claimed functional language that the barrier layer "prevents penetration of the faceplate by electrons" is inherent to the prior art layers 28, 38, as evidenced by page 38, lines 4-15 of the instant specification.

Referring to the bottom of page 6 of amendment A, the applicant alleges that the silica layer 24 is disposed between electrodes 23, and 22 and not over the substrate as instantly claimed. The examiner respectfully disagrees, and notes that the applicant's FIG. 10, similarly includes a barrier layer 1002 disposed between the substrate 1001, and conductive layer (not numbered). Furthermore, from the instant FIG. 10, 11, it is grossly apparent that a barrier layer disposed over the substrate, is synonymous with a barrier layer disposed between a conductive layer and the substrate.

Referring to page 7, and to claim 19, as best as can be determined by the examiner, a "substrate structure" is synonymous with a substrate, as evidenced by FIG. 11 disclosure of the process for forming the devices of FIG. 9, 10.

In conclusion, the fact that the applicant alleges to have discovered a further advantage or utility of structure disclosed by the prior art does not render the prior art structure patentable to them. It is the position of the examiner that the presently claimed subject matter of claims 1-9,

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19, 20, 22-29, and 10-14, 16-19, 21-25, 27-29, read on the prior art structure as evidenced by the prior art meeting all of the claimed structural limitation.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Day whose telephone number is 703/305-4941. The examiner can normally be reached on Monday-Friday, from 8:00 A.M. to 5:00 P.M.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar Patel, can be reached by phoning 703/305-4794. The Fax phone number is 703/308-7382.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is 703/308-0956.

April 8, 2002

A handwritten signature in black ink, appearing to read 'Michael Day', with a long horizontal stroke extending to the right.

MICHAEL DAY
PRIMARY EXAMINER
GROUP 2870